Created 6/26/1998, Revised 10/11/21

CITY OF KANSAS CITY, MISSOURI

CITY PLANNING & DEVELOPMENT

Requirements for Plans Review Submittal

One and Two– Family Dwellings

Kcmo.gov/planning

Information Bulletin 100

Purpose:
The purpose of this document is to advise you of the information needed for city staff to properly evaluate a permit application for your residential project. It is the goal to evaluate your project for code compliance and to clarify discrepancies in the plan review rather than transferring problems to the field, resulting in time delays at critical times in the project and unnecessary, costly reconstruction.

Submissions:
All applications may be made online via our online permitting system, CompassKC, at www.kcmo.gov/compasskc .

Submittal Review
Upon submission of a complete application, the turnaround goal for plans review is seven business days for the first and any successive submissions.

When is a Plan Required?
City-stamped, reviewed plans are required for all permits issued for work on one- and two-family residences, with the following exceptions. Where plans are not required, the applicant shall submit a written scope of work that describes in detail the work to be performed.:

A plan submittal is not required for the following, where the work is in accordance with the prescriptive provisions of the *2018 International Residential Code*.

- Construction, removal, or relocation of non-bearing walls.
- Installation of roof sheathing and light-weight shingles.
- Installation of doors and windows not exceeding 4 feet in width in bearing walls.
- Construction of new closets and bathrooms which do not include construction, removal, or relocation of a bearing wall.
- Basement finishes which do not include structural modifications.
- Repair in kind including minor structural repairs such as replacement of several joists/studs/rafters.
- Mechanical/plumbing/electrical installations. (Note: Plans are required for electrical services 400 amps and higher or involving a generator; and for private sewage disposal systems such as septic tank/evaporation pond systems. See ***Information Bulletin 160*** for plan requirements for electrical services and generators. See ***Information Bulletin 105*** for plan requirements for private sewage disposal systems.)
- Conventional construction and replacement of open porches and sun decks without roofs. (Note: A site plan is required – see Section B below for details.)
- Residential swimming pools. (Note: A site plan is required -- see Section B below for details.)

Plans, engineering calculations, diagrams and other data shall comply with the *2018 International Residential Code,* as further modified by the Kansas City Building and Rehabilitation Code, Code of Ordinances Chapter 18 (see online at *www.kcmo.gov/planning*).

Required Minor Subdivisions for Lot Splits or Re-platting
As permits cannot be issued until platting and/or Minor Subdivision requirements have been met, please make certain that these processes have been completed before making application for a permit.

Master Plans
Should you have a house type that you would like to build repeatedly, you will not be required to resubmit building plans with each permit application. You will be required to submit the site plan for each lot on which the master plan is to be built. Approved master plans will only have to be revised and resubmitted when a new code edition is adopted which may alter code requirements, or when you wish to revise your house plans. Master plans may include options for details such as bay windows, 3rd car garage, etc – provided that the option does not require substantial changes to the framing of the primary structure or load paths, in which case a separate master plan would be required.

Masterplans shall have the phrase "Master plan" on all pages (preferably in the title block). Please assign your master plan a name or number for ease of reference. Once your master plan is approved, you may obtain future building permits by submitting (when applying via CompassKC, always apply for the permit as a 'sub-record' off of the CompassKC 'plan case' for the master plan).

Certified Plans
As a customer service initiative, plans certified by a Missouri-registered professional engineer or architect as meeting all requirements of applicable Kansas City building codes and ordinances will be accepted. See ***Information Bulletin 103*** for further details, and the required certification form. The certification form shall be completed, sealed, and submitted with the initial plan submittal when using this option. The turnaround goal for certified plans is five business days.

<u>Minimum Plan Submittal Requirements</u>

A complete plan review submittal shall include:

- Site Plan
- Foundation Plan
- Floor Plans
- Ceiling Plans
- Roof Plan
- Elevations
- Structural Details
- Notes

A. General Requirements:

1. The building plan submittal shall be in electronic format as a single pdf document, and must be uploaded to the plan case via CompassKC. ***It is recommended that the site plan be a separate pdf document.***
2. Plans shall be drawn to scale, shall be of sufficient clarity to indicate the nature and extent of work proposed, and must show in detail that the design will conform to the provisions of applicable codes, ordinances, rules, and regulations.
3. Existing and proposed floor plans must be shown for renovations/ additions to existing structures.
4. Dimensions are required on all plan views.
5. The first page of a plan set shall either have the total number of pages noted, or a table of contents.

6. An architect or engineer's seal is not required on plans, except where engineered features are incorporated into the design (an engineered feature is one that does not conform to the prescriptive provisions of the 2018 International Residential Code, e.g. structural slab, retaining wall, etc). The sealed plan sheets representing the engineered features shall be accompanied by sealed calculations verifying the design. The calculations shall be sealed in accordance with Missouri state statue.
7. ***It is recommended that calculations are provided in a separate pdf document.***

B. Site Plan (aka Plot Plan): This is a scaled drawing of the property and is to include the following features/information:

1. Correct street address. (Addresses shall be assigned by City Planning & Development (CPD) for new construction.)
2. Legal description of the property, including applicable lot split approval number from the Department of Planning & Development for those lots created without a subdivision plat.
3. Location and dimensions of all property lines and include a North arrow.
4. Platted building setback lines and easements.
    a. Platted building setback lines and easements may require greater setbacks than required by the Zoning & Development Code and may be found either on a mortgage survey or at the County Recorder's Office. CPD Permit Staff, 5th Floor, City Hall, (816) 513-1500, may also have records in some cases.
5. Information regarding site drainage for stormwater control, including all drainage easements and swales required by the engineered development plan, and general information regarding drainage flow direction (such as arrows, etc).
6. Dimensions of buildings and distances to other buildings on the same property, other improvements and property lines. Site plans shall include all building projections beyond the foundation walls (roof soffits, bay windows, cantilevered floor areas, balconies, etc.). A note shall be included on each site plan stating the following: SITE PLAN INCLUDES ALL BUILDING PROJECTIONS BEYOND THE FOUNDATION WALLS.
7. Location of the public right-of-ways adjacent to the property.
8. Location of required off-street parking and driveway.
    a. Site plan shall indicate that the parking space and driveway are paved (or gravel where expressly allowed by Zoning & Development Code).
    b. A note shall be included on the site plan indicating the percent of the front yard and/or street-side yard that is covered by the driveway and parking space. NOTE: Parking and drive area shall not exceed 40% of front yard or 20% of the street-side yard. See Ordinance 88-420-12 for details.
9. Location, width and length of proposed public sidewalk and drive approach. NOTE: The width of the driveway at the property line is minimum 7.5' and maximum 22'.
    a. [For unimproved streets (i.e. no curb, gutter or storm sewer), a drainage culvert shall be provided under the drive approach in accordance with adopted City Standards. CPD Land Development Division, 5th Floor City Hall, (816) 513-2551, may assist with culvert sizing questions. Approximate elevation contour maps are available on the 'parcel viewer' map available on the City's website www.kcmo.gov .]
10. Information regarding any variance approvals which may have been received through the Board of Zoning Adjustment.

11. If the regulatory 100-year floodplain per current FEMA maps is located anywhere on the parcel, the site plan shall be sealed by a registered professional engineer or land surveyor and contain the following floodplain information:
    - The location and elevation of the boundary of the 100-year Regulatory Floodplain based on current FEMA maps.
    - The location and elevation of the boundary of the "one-foot freeboard" as required by Ordinance Chapter 28 based on current FEMA maps.
    - The elevation of the lowest floor (including basement) in the structure.
    - The elevation of lowest grade adjacent to the structure.

    When in the floodplain, the site plan shall be sealed by a registered professional engineer or land surveyor. Information regarding regulatory floodplain maps and GIS mapping of the regulatory floodplain may be found at *www.kcmo.gov/floodplain* .

    If the structure is to be located within the area of the current FEMA 100-year floodplain plus one-foot freeboard, then a *Floodplain Development Permit* is required. See ***Information Bulletin 120***, Procedure for Obtaining A Floodplain Development Permit, for application information.

C. Foundation Plan. This is a scaled drawing of the proposed building foundation and shall include the following features/information:

1. A plan view of the building foundation system, including footings for covered decks and covered porches.
2. Show the footing dimensions and footing reinforcement required.
3. Show foundation wall height, thickness, and required reinforcement. Foundation design shall be in accordance with 2018 IRC and CPD-DS Information Bulletin Number 114.
4. Basement egress openings as required by IRC Section R310.1 shall be detailed on the plan, including height of sill above finished floor.
5. Show or indicate by note that all footings meet or exceed a minimum frost depth of 36 inches.
6. Unless otherwise indicated on plans and determined by an engineered soils analysis, the soil load-bearing capacity shall be presumed to be 2,000 p.s.f.
7. Note on plans the required compressive strength of concrete (f'_c) to be used (2,500 – 3,500 psi minimum depending on location) and required air-entrainment.
8. Show or indicate by note basement slab thickness and slab reinforcement required.
9. Note type of vapor barrier to be used under slabs below grade.
10. Note on plans foundation drainage in accordance with Section R-405, Foundation Drainage
11. Provide note or detail showing anchor bolts per code. Indicate size, spacing, and embedment depth.
12. Provide note that all foundation walls enclosing below grade space shall be damp-proofed (or waterproofed) per IRC R406.1.
13. Details for foundation walls that do not have lateral support at top (i.e. connection to the floor structure) and supporting more than 48" of unbalanced fill per IRC R404.1.1 #2.

D. Floor Plan. These are scaled drawings of the proposed building floor(s) and shall include the following features/information:

1. A plan view of each floor level of the building, including the basement.
2. Existing and proposed floor plans must be shown for renovations/ additions.
3. Dimensions. Provide dimensions for each room and architectural feature, e.g, hallways, stairways, etc.
4. Use of each room (including basement/lower levels).

5. Show size and spacing of proposed floor and ceiling framing members, show entire member from bearing point to bearing point; provide grade and species of lumber or indicate minimum allowable extreme fiber stress (F_b) and modulus of elasticity (E) to be used for framing members. Provide dimensions and/or specifications for other types of structural elements used, e.g. steel framing, microlams, glulams, etc. (Framing information may be shown on floor plans or on separate framing plans.)
6. If pre-engineered wood trusses are used in floor framing, provide individual truss design drawings which identify all information per IRC 502.11.4, sealed by an Engineer registered in the state of Missouri. A truss layout plan shall be provided (if the house plan is engineered, the truss layout plan shall include the 'acceptance/shop stamp' of the building engineer-of-record).
7. Provide I-joist design information, layout plan and installation instructions by the manufacturer. (If the house plan is engineered, the I-joist layout plan shall include the 'acceptance/shop stamp' of the building engineer-of-record.)
8. Provide details of connections for ledgers (floor and ceiling) per requirements of IRC Tables 507.9.1.3(1), 507. 9.1.3(2), Figures 507. 9.1.3(1) and 507. 9.1.3(2)
9. Show the finished square footage (new homes), renovation square footage (interior remodel), and/or additional finished square footage (basement finish/addition) on the plan.
10. Show that all cantilevers will have at least a 3:1 back span and show how this element supports all imposed loads.
11. Show a minimum of two joists under each bearing wall, or more where necessary to support the imposed loads.

E. Ceiling Plan These are scaled drawings of the proposed building Ceiling (s) and shall include the following features/information:

1. Show size and spacing of proposed ceiling framing members.
    a. Provide dimensions to bearing points.
    b. Show entire member from bearing point to bearing point.
    c. Provide grade and species of lumber or indicate minimum F_b and E to be used for framing members.
    d. Provide dimensions and/or specifications for other types of structural elements used, e.g. microlams, glulams, etc.

F. Roof Plan. These are scaled drawings of the proposed roof(s), including covered decks and porches, and shall include the following features/information:

1. A note that the roof is designed for 20 p.s.f. roof snow load (minimum).
2. A note on the type of roof covering to be used.
3. Show size and spacing of proposed roof framing members.
    a. Provide dimensions to bearing points (including hips, valleys, and structural roof support members).
    b. Show entire member from bearing point to bearing point.
    c. Provide grade and species of lumber or indicate minimum F_b and E to be used for framing members.
    d. Provide dimensions and/or specifications for other types of structural elements used, e.g. steel framing, microlams, glulams, etc.
4. If pre-engineered wood trusses are used in roof framing, provide individual truss design drawings which identify all information per IRC 802.10.1, sealed by an Engineer registered in the state of Missouri. A truss layout plan shall be provided (if the house plan is engineered, the truss layout plan shall include the 'acceptance/shop stamp' of the building engineer-of-record)..
5. Show required ceiling joist or rafter tie connection between rafters, or a ridge beam. Show required collar ties or ridge straps. Note compliance with sections R802, R802.4, R802.5, R802.5.2, and R802.11. (Ceiling joists can also serve as rafter ties.)

G. Elevations. These are scaled drawings of the proposed building as viewed from each side and are to include the following features/information:

1. Exterior wall openings. Size and location of doors and windows.
    a. Note on plans that garage doors meet ANSI/DASMA 108 for 115 MPH requirements.
2. Show exterior wall water-resistive barrier in wall section or on plan in accordance with IRC Section R703.2.
3. Show a detail on plans and note compliance with provisions of IRC Section R602.3 for continuous studs between floor and roof/ceiling diaphragm or provide design from Design Professional.
4. On each elevation view, show the height to ridge from grade, and height of each floor level including basement. Show if the building is a walkout basement. These values must be able to be added or shown inclusively to determine building height.
5. Basement wall elevations should be shown for the site condition with the maximum wall exposure addressed in the design plans.

H. Structural Details:

1. Show size and spacing of wall framing members; provide grade and species of lumber or indicate minimum Fb and E to be used for framing members. Provide dimensions and/or specifications for other types of structural elements used. (Framing information may be shown on elevations, floor plans, or on separate framing plans.)
    - Note: In bearing walls, studs which are not more than ten feet in length shall be spaced not more than is specified in Table No. R-602.3(5) for the corresponding stud size. Those studs greater than ten feet in length shall be designed by a professional engineer or registered architect if not meeting requirements of Table R-602.3(6)
2. Provide sufficient details and/or sections to show the transfer of roof and floor loads (including point loads) through the various structural elements in the building to a foundation capable of supporting these loads
3. Provide sufficient details to clearly demonstrate the structural adequacy in such situations as offset bearing walls, cantilevered beams, and vaulted ceilings.
4. Provide thickness and required reinforcement for any raised concrete slab or any concrete slab on fill material that exceeds 24 inches of compacted sand or gravel or 8 inches of compacted soil. This may entail a design which includes a combination of grade beams, piers, reinforced slab, and pier footings designed to sustain live loads of 30 psf (sleeping areas), 40 psf (living areas), or 50 psf (garages; also 2000 lb concentrated load). Designs for these structural slabs shall be prepared and sealed by a professional engineer or registered architect. CPD-DS Information Bulletin No. 114, One- and Two-Family Standard Garage Slab and Foundation Wall Details, contains standard drawings which may be used, where applicable, in plans submittal in lieu of providing an engineered design.
5. Note on plans the size of all beams, headers, and columns used. Note on plans that steel columns will be a minimum of schedule 40.
6. Show connections and call out specific connector for all major structural components on plans.
7. Solar panel systems. Show that attachment, and structural members used for attachment (e.g. rafters), are capable of supporting and resisting all gravity and wind uplift loads due to the panels.
8. Show the braced wall lines, note methods per IRC bracing naming convention, the location of the braced wall panels, and nailing pattern per method being used, and detail the type of wind bracing used. Show required blocking above/below braced wall lines. Lateral bracing methods are not required to be shown for open decks, including covered decks with no enclosing walls other than insect screening. Lateral bracing methods shall be shown for all enclosed decks or sun rooms. This bracing must be on a continuous foundation unless another engineered solution is presented. In lieu of the prescriptive requirements of the 2018 International Residential Code, CPD-DS will accept the use of the following optional narrow wall bracing methods:

9. APA – The Engineered Wood Association "Whole House Wall Bracing", (available under the Publications link at www.apawood.org).
10. Analyses and designs using computer software shall be permitted, provided design assumptions, applicable codes, user input, and computer generated output, most recent update and summary are submitted. Model analysis shall be permitted to supplement calculations. All information requested in this section, at a minimum, shall be provided. If formulas are not available, sample calculations verifying the software output shall be provided. National software that has been thoroughly vetted by an approved agency may be allowed without formulas (such a RISA) but a summary is still required. In house written programs will require formulas. This includes all excel type spreadsheets.

I. Additional Details and Notes:

1. Windows.
    a. Note where safety glazing is to be installed; note size, location, and type of windows used to satisfy bedroom, basement, and attics egress requirements.
    b. Show that basement egress window wells comply with IRC R310.2.
    c. Note window fall protection requirements per section R312.2.
2. Stairs. Note rise and run, headroom clearance and width; provide details for special stairs (e.g., spiral, winder, and circular).
3. Dwelling unit separations. Provide detail or note of proposed construction for fire separation wall between duplex units and/or townhouse units. Complete fire resistance rated assembly design details to be provided on the plan.
4. Garage separation. Provide detail or note of proposed construction between attached garage and living space in the dwelling. Self-closing devices are required for garage to dwelling separation doors. (No openings are allowed between bedrooms and garage areas.)
5. Energy conservation. Provide a table indicating conformance to the energy provisions of the IRC. Note type and thickness of wall, crawl space, basement, slab, and attic insulation to be used; include R-values for each. Show furring where employed to achieve required ceiling dimensions for insulation. Show U-value of doors and windows, and SHGC for windows.
6. Fire-resistive exterior wall construction. Where construction may occur within 5 feet of a property line, show details for required fire-rated construction exterior walls, eaves or other projections, or openings (as applicable). [KCBRC/IRC R302] Complete fire resistance rated assembly design details to be provided on the plan.
7. Security. Provide a note indicating conformance to the provisions of KCBRC/IRC R326 regarding building security.
8. Electrical Service Grounding. Note on the drawings that an accessible connection point will be provided to a concrete-encased electrode (e.g. 20' footing rebar) for the electrical service grounding electrode conductor ('ufer ground').
9. Smoke/carbon monoxide alarms. Note on plans that carbon monoxide alarms will be provided in accordance with IRC Section R315 and smoke alarms per IRC Section R314.

Resubmittals

When resubmitting in response to plans review comments, address discrepancies by the discrepancy item number. Resubmittals to plans review comments shall replace the entire pdf file. When submitting revisions in response to plans review comments or "changes to previously-approved plans", clearly identify all changes on the plan document (e.g. 'clouding', etc).

Once Plans are Approved

After review approval, an electronic copy of the "City-stamped" plan will be available to the applicant as an 'Attachment' on CompassKC. The applicant can now obtain a permit for construction.

Please note that a complete set of City-stamped building plans (or master plan) and the City-stamped site plan will be required to be on the job site for all inspections -- partial sets are not acceptable. A photocopy of the approved building plans may be used on the job site for construction and inspections.

Failure to provide the City-stamped plans on the job site for the inspector's use may result in a disapproved inspection and assessment of reinspection fees. Exceptions: City- stamped plans will not be required to be on the job site for the following types of inspections:

a) backfill
b) slab where backfill material does not exceed 24 inches of compacted sand or gravel or eight inches of compacted earth,
c) electrical service (except electrical services where stamped plans were required for permit issuance)
d) gas service
e) plumbing ground work

Questions?

Should you have any questions on this information bulletin, please contact our Code Question Line at CodeQuestions@kcmo.org or (816) 513-1500.